

WHAT IS CLAIMED IS:

1. A method for selecting one of a plurality of codecs for a communication session, the method comprising the following steps performed by an endpoint
5 participating in the communication session:
 receiving a plurality of assessment packets;
 determining at least one network parameter based on the assessment packets;
 selecting one of a plurality of codecs using the at
10 least one network parameter; and
 communicating media using the selected codec.
2. The method of Claim 1, wherein the assessment packets comprise a plurality of real-time transfer
15 control protocol (RTCP) packets without media.
3. The method of Claim 1, wherein the at least one network parameter comprises packet loss and delay.
- 20 4. The method of Claim 1, wherein selecting one of a plurality of codecs comprises:
 retrieving pre-stored codec selection data that associates the at least one network parameter to a
corresponding codec; and
25 selecting the corresponding codec using the pre-stored codec selection data.

5 5. The method of Claim 1, further comprising:
 monitoring the at least one network parameter; and
 selecting a new codec from the plurality of codecs
in response to a change in the at least one network
parameter.

10 6. The method of Claim 1, further comprising:
 requesting additional bandwidth if the selected
codec requires more bandwidth; and
 releasing excess bandwidth if the selected codec
requires less bandwidth.

15 7. The method of Claim 1, wherein the selected
codec requires less bandwidth, and further comprising
 retaining excess reserved bandwidth to facilitate a
potential switch to a codec requesting more bandwidth
than the selected codec.

20 8. The method of Claim 1, wherein the selected
codec requires more bandwidth which is unavailable, and
further comprising:

 storing the at least one network parameter as a
first network parameter;

25 receiving a plurality of second assessment packets
using the selected codec;

 determining at least one second network parameter
based on the assessment packets; and

 comparing the first network parameter to the second
network parameter to determine whether to switch to the
30 selected codec.

9. The method of Claim 1, further comprising:
reserving, at the initiation of the communication session, a sufficient bandwidth for the least bandwidth efficient codec supported by the endpoint; and
- 5 maintaining the reservation of the sufficient bandwidth when the selected codec requires less than the sufficient bandwidth.
- 10 10. The method of Claim 1, further comprising:
communicating a plurality of additional assessment packets to a remote location; and
wherein the step of selecting comprises negotiating with the remote endpoint to select a codec.
- 15 11. The method of Claim 1, wherein:
the media comprises voice information; and
the at least one network parameter comprises a network parameter that impacts voice quality experienced by a user participating in the communication session.
- 20 12. The method of Claim 1, wherein the codecs implement at least a selected one of a G.711, G.723, and G.729 voice compression standard.

13. An apparatus for selecting one of a plurality of codecs for a communication session, comprising:

a network interface operable to receive a plurality of assessment packets;

5 a plurality of codecs;

a processor coupled to the network interface and the codecs, the processor operable to determine at least one network parameter based on the assessment packets, the processor further operable to select one of a plurality
10 of codecs using the at least one network parameter.

14. The apparatus of Claim 13, wherein the assessment packets comprise a plurality of real-time transfer control protocol (RTCP) packets without media.
15

15. The apparatus of Claim 13, wherein the at least one network parameter comprises packet loss and delay.

16. The apparatus of Claim 13, further comprising a
20 memory operable to store codec selection data that associates the at least one network parameter to a corresponding codec, wherein the processor is operable to select the corresponding codec using the stored codec selection data.

17. The apparatus of Claim 13, wherein the processor is further operable to:

monitor the at least one network parameter; and

select a new codec from the plurality of codecs in
5 response to a change in the at least one network
parameter.

18. The apparatus of Claim 13, wherein the processor is further operable to:

10 request additional bandwidth if the selected codec
requires more bandwidth; and

release excess bandwidth if the selected codec
requires less bandwidth.

15 19. The apparatus of Claim 13, wherein the selected
codec requires less bandwidth, and the apparatus retains
excess reserved bandwidth to facilitate a potential
switch to a codec requesting more bandwidth than the
selected codec.

20. The apparatus of Claim 13, wherein the selected codec requires more bandwidth which is unavailable, and the processor is operable to:

store the at least one network parameter as a first
5 network parameter;

determine at least one second network parameter based on a plurality of second assessment packets received using the selected codec; and

compare the first network parameter to the second
10 network parameter to determine whether to switch to the selected codec.

21. The apparatus of Claim 13, wherein the processor is further operable to:

reserve, at the initiation of the communication
15 session, a sufficient bandwidth for the least bandwidth efficient codec supported by the endpoint; and

maintain the reservation of the sufficient bandwidth when the selected codec requires less than the sufficient
20 bandwidth.

22. The apparatus of Claim 13, wherein:

the media comprises voice information; and

the at least one network parameter comprises a
25 network parameter that impacts voice quality experienced by a user participating in the communication session.

23. The apparatus of Claim 13, wherein the codecs implement at least a selected one of a G.711, G.723, and
30 G.729 voice compression standard.

24. Logic encoded in media for selecting one of a plurality of codecs for a communication session, the logic operable to perform the following steps:

- receiving a plurality of assessment packets;
- 5 determining at least one network parameter based on the assessment packets;
- selecting one of a plurality of codecs using the at least one network parameter; and
- 10 communicating media using the selected codec.

25. The logic encoded in media of Claim 24, wherein the assessment packets comprise a plurality of real-time transfer control protocol (RTCP) packets without media.

- 15 26. The logic encoded in media of Claim 24, wherein the at least one network parameter comprises packet loss and delay.

- 20 27. The logic encoded in media of Claim 24, wherein selecting one of a plurality of codecs comprises:

- retrieving pre-stored codec selection data that associates the at least one network parameter to a corresponding codec; and

- 25 selecting the corresponding codec using the pre-stored codec selection data.

28. The logic encoded in media of Claim 24, further comprising:

monitoring the at least one network parameter; and
selecting a new codec from the plurality of codecs
5 in response to a change in the at least one network
parameter.

29. The logic encoded in media of Claim 24, further comprising:

10 requesting additional bandwidth if the selected
codec requires more bandwidth; and

releasing excess bandwidth if the selected codec
requires less bandwidth.

15 30. The logic encoded in media of Claim 24, wherein
the selected codec requires less bandwidth, and further
comprising retaining excess reserved bandwidth to
facilitate a potential switch to a codec requesting more
bandwidth than the selected codec.

31. The logic encoded in media of Claim 24, wherein the selected codec requires more bandwidth which is unavailable, and further comprising:

5 storing the at least one network parameter as a first network parameter;

receiving a plurality of second assessment packets using the selected codec;

10 determining at least one second network parameter based on the assessment packets; and
comparing the first network parameter to the second network parameter to determine whether to switch to the selected codec.

32. The logic encoded in media of Claim 24, further comprising:

15 reserving, at the initiation of the communication session, a sufficient bandwidth for the least bandwidth efficient codec supported by the endpoint; and

20 maintaining the reservation of the sufficient bandwidth when the selected codec requires less than the sufficient bandwidth.

33. The logic encoded in media of Claim 24, further comprising:

25 communicating a plurality of additional assessment packets to a remote location; and

wherein the step of selecting comprises negotiating with the remote endpoint to select a codec.

34. The logic encoded in media of Claim 24,
wherein:

the media comprises voice information; and

the at least one network parameter comprises a
5 network parameter that impacts voice quality experienced
by a user participating in the communication session.

35. The logic encoded in media of Claim 24, wherein
the codecs implement at least a selected one of a G.711,
10 G.723, and G.729 voice compression standard.

36. An apparatus for selecting one of a plurality of codecs for a communication session, the apparatus comprising:

means for receiving a plurality of assessment
5 packets;

means for determining at least one network parameter based on the assessment packets;

means for selecting one of a plurality of codecs using the at least one network parameter; and

10 means for communicating media using the selected codec.

37. The apparatus of Claim 36, wherein the assessment packets comprise a plurality of real-time transfer control protocol (RTCP) packets without media.

15

38. The apparatus of Claim 36, wherein the at least one network parameter comprises packet loss and delay.

39. The apparatus of Claim 36, wherein:

20 the media comprises voice information; and

the at least one network parameter comprises a network parameter that impacts voice quality experienced by a user participating in the communication session.

25